

Work Order ID 69053

Wednesday, April 27, 2011 11:28:20 AM



Page 1

Item ID: D3943-053

Accept



Setup Start



Revision ID:

Stop



Item Name: Chain Assembly

Start Date: 4/27/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 5/3/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

P

Date: 4/27

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3943

C

100

Weld per dwg A/R Steel rod Batch: *M108350* 0.00

Large Fab

Memo

0.00

Large Fab

ASSEMBLE WITH CHAIN BEFORE WELDING

PZ 11-5-23 *(X2)*

110

QC9- Inspect visual per QSI004- Fusion Welds

0.00



QC

Memo

0.00

Quality Control

PZ 11-05-24

120

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

*8 11-05-24**(X2)*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



Powdercoat

Powder Coating

Hybrid safety Yellow 4.3.5.12

0.00

Memo
M116309

0.00

1- MASK CHAIN FROM THIS POINT ON PRIOR TO powdercoat AS PER DWG

2- POWDER COAT

Start Time: 8:30

Oven Temperature: 320°

Finish Time: 9:00

2

BR 11-5-25

140



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

2 0 11-5-25

150



Packaging

Packaging

Identify as per dwg & Stock Location: w/o

0.00

Memo

66111

0.00

EL 11-5-25 (12)

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Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/5/26
MF
11-05-25

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Picklist Print

Wednesday, April 27, 2011 11:28:26 AM

Page 1

Work Order ID: 69053

Parent Item: D3943-053

Parent Item Name: Chain Assembly



Start Date: 4/27/2011

Required Date: 5/3/2011

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP RevA: add DEO DD 09.11.18 verified by:JLM IPP Rev:B as per
dwg REV.C DD 10.02.22 verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3954-5  Chain Lug		Manufactured	No			100	Each	2.0000	1	2			
					<u>Location</u> ST097				<u>Loc Qty</u> 2				
					63740				2				
D3954-9  GWT Chain Pin		Manufactured	No			100	Each	16.0000	1	2			
					<u>Location</u> ST097				<u>Loc Qty</u> 16				
					52991				16				

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ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERRED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D3943-051	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN5-11A	BOLT	
32	1			AN960-516	WASHER	
33	1			MS21042L5	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
41	1			S-1475	SPRING	REID SUPPLY
42	1			3408A59	BALL PLUNGER	McMASTER CARR
43	1			HX-15	SOCKET HEAD CAP SCREW 1/2-20 UNC X 0.75 LG	HASKINS
44	1			HX-16	SOCKET HEAD CAP SCREW 1/2-20 UNC X 1.0 LG	HASKINS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 69053

2/11-04-27

RELEASED
2010-10-18
MP

C	RMV FINISH -041 (ZN A8-2), ADD NEW FINISH -051/-053/-1/-3 (A8-3/-4/-5), ADD CALIBRATION (A8-2), (1) HX-16 WAS HX-15 (B3-1, C3-1), PAR 10-001	CP	10.01.26
B	SHT 1 PL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS 0.75 LG. SHEETS 2 - 5 NOTES: FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT.	AJS	09.10.15
A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTOW / AJS		
DRAWN	<i>gp</i>		
CHECKED	<i>js</i>		
MFG. APPR.	<i>js</i>		
APPROVED			
DE APPR.	N/A		
DATE	10.01.26		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3943 REV. C
SHEET 1 OF 5

TITLE GROSS WEIGHT TOW CRANK ASSY SCALE NTS

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NOTE: Date & initial all entries

8

7

6

5

4

3

2

1

REMOVE AND RETAIN
RUBBER HAND GRIP

DISCARD PIN

RETAIN PIN

REMOVE & DISCARD HOOK

8143919 LEVER CHAIN HOIST
(SHOWN PRIOR TO MODIFICATION)
(CHAIN SHOWN SHORTENED FOR CLARITY)

AN5-11A BOLT
AN960-516 WASHER
MS21042L5 NUT

3408A59
BALL PLUNGER

8143919
LEVER CHAIN HOIST

(CHAIN NOT SHOWN FOR CLARITY)

RE-INSTALL
RUBBER HAND-GRIP
HERE

D3943-3
HANDLE EXTENSION

D2690-4 LANYARD

D3949-041 FLAG

HX-16 S/H CAP SCREW

HX-15 S/H CAP SCREW
S-1475 SPRING

CALIBRATION TAG

D3585-1 SET SCREW

RE-INSTALL PIN

D3954-7 RATCHET LUG





D3943-053 CHAIN ASSY

(CHAIN SHOWN SHORTENED FOR CLARITY)

D3943-041 GROUND HANDLING CRANK ASSEMBLY

NOTES -041:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER
- 7) CALIBRATION TAG PER DART QSI 008 4.4 (ZN C1-2)

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3943	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.	M/A	GROSS WEIGHT TOW CRANK ASSY	NTS
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R 2010-02-10

W/O:		WORK ORDER CHANGES						
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

D3943-1 HANDLE

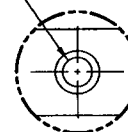
2 PL

9.75

2.00

Ø

0.41

Ø0.31
THRUØ0.12
THRUD3943-7 STUD
2 PLTHREAD 1/2-20 UNC-2B
2 PLTHREAD 1/2-20 UNC-2B
THRUVIEW A-A A5-3
(SCALE 2X) B5-3

2 PL

9.37

A B1-3

D3943-5 PLATE

D3943-051 HANDLE ASSEMBLY

NOTES -051:

- 1) MATERIAL : N/A
- 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS
PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) MASK ALL THREADS PRIOR TO POWDER COATING

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2010-02-10

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DRAWN	99	DRAWING NO.	REV. C
CHECKED	JS	D3943	SHEET 3 OF 5
MFG. APPR.		TITLE	SCALE
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DATE	10.01.26		

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

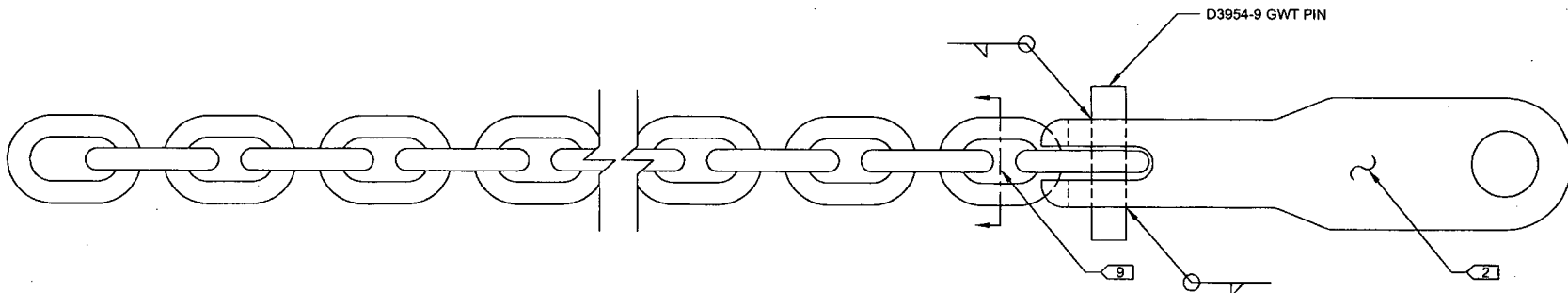
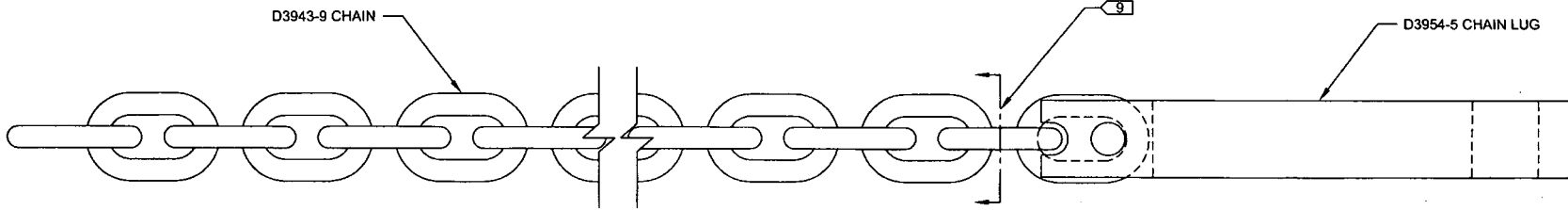
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

w/o GROSS



D3943-053 CHAIN ASSEMBLY

RELEASED
2010-02-10
w/d

- NOTES -053:**
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: N/A
 - 8) WELD PER QSI 004
 - 9) MASK CHAIN FROM THIS POINT ON PRIOR TO POWDER COATING

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO. D3943	REV. C
MFG. APPR.	<i>[Signature]</i>	SHEET 4 OF 5	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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8 7 6 5 4 3 2 1

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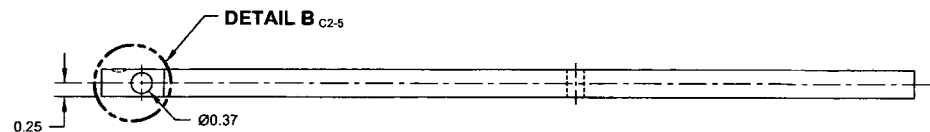
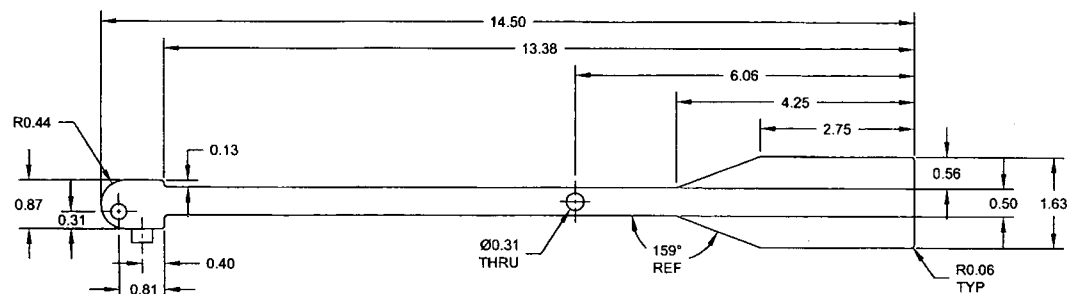
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

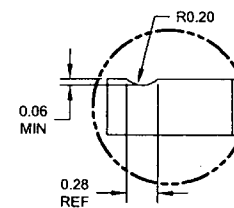
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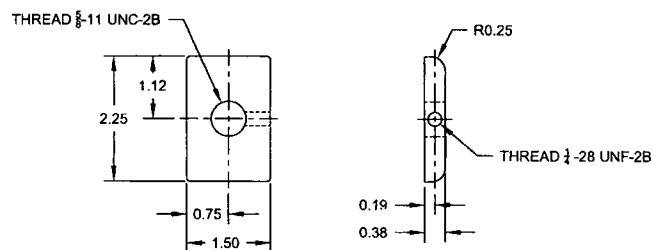
8 7 6 5 4 3 2 1



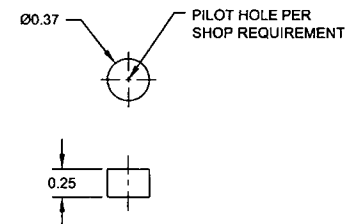
D3943-3 HANDLE EXTENSION



DETAIL B-B C7-5
(Dimple Detail)
(Scale 2X)



D3943-5 PLATE



D3943-7 STUD
(Scale 2X)

NOTES -11/-13:

1) MATERIAL -3 & -5: MILD STEEL, SHEET
AISI 1010-1025 OR ASTM A36/A368/A1008
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-S

OR: MILD STEEL, BAR
AISI 1010-1025 OR ASTM A36/A368/A569/A570
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-B

-7: MILD STEEL, ROUND BAR
AISI 1018-1025
PER MIL-S-7097
REF DART SPEC M1018-R

2) FINISH -3: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
-5 & -7: NONE

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: NONE

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2010-02-10

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	97	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3943	SHEET 5 OF 5
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